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of such clouds or streams. (By streams I do not mean rows of stars, but stream-shaped *regions* in which are many thousands of stars.) I think my Chart of 324,000 Stars in the Northern Hemisphere demonstrates this, especially when it is remembered that the regions where *these* stars (largely exceeding in number those dealt with statistically by Von Littrow, or indeed, so far as I know, by any other) chiefly congregate, are precisely the regions where stars down to the 20th magnitude are found in greatest number. As Mr. W. M. Christie remarks in a very able and impartial review of my researches (*Academy* for June 27, 1874), "it is hardly conceivable that" the clustering aggregations "should be enormously long cylinders or spindles, turned in every case exactly towards us."

It appears to me that direct evidence based on the laws of local aggregation, as deduced from isographic charting (which is in effect statistical enumeration recorded so that all its classifications can be *seen*), cannot be disposed of by a less perfect method of counting, in which averages only are considered without reference to localisation. This would be much as though an archæologist's theory respecting certain mounds in a plain should be met by a surveyor with the argument that the mounds had no real existence, seeing that, if they were levelled, the plain would not rise appreciably, where they had been, above the surrounding level. If the mounds could be thus disposed of, any theory respecting them would fall to the ground. In like manner, I must admit that if no attention be paid to the evidence of stellar aggregation in particular regions of the heavens, there remains little evidence of the existence of real stellar aggregations in space.

Visible Transits of Mercury to the Year 2000.

By Rev. S. J. Johnson.

Upon recently making an examination, for curiosity, of the transits of *Mercury* that were to be expected in this land till the close of the next century, I found the method of cycles, even that of 263 years, would not answer in many instances, as, owing to the difference of the planet's geocentric latitude at the return of the period, the duration of the transit may vary considerably. I therefore computed the places of ☉ and ☿ from some approximate tables—those given in Lindsay's *Chrono-Astrolabe*—and the results will, I believe, deviate little from the truth.

Thirteen transits of *Mercury* fall in the present century, but one only, that of 1832, was visible throughout at Greenwich. In the next century twelve happen, four of them being entirely visible there.

After the transit of 1878 there will be no opportunity for a good observation of this sort in the remaining years of this

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century, as in 1891 the planet leaves the Sun scarcely half an hour after sunrise, and in 1894 the ingress is but a quarter of an hour before sunset.

Sometimes a period of thirty years elapses that is transitless so far as we are concerned in this country, as between the years 1802 and 1832, and from 1973 to 2003.

(Contacts below the horizon are omitted.)

1881	Nov. 7	Below the horizon.	
1891	May 10	,, ,,	Egress about $4\frac{3}{4}^{\mathrm{h}}$ morn.
1894	Nov. 10	Ingress about 4^{h} aft.	
1907	Nov. 12	,, ,, $10\frac{1}{4}^{\mathrm{h}}$ morn.	,, ,, $1\frac{3}{4}^{\mathrm{h}}$ aft.
1914	Nov. 6	,, ,, $9\frac{3}{4}^{\mathrm{h}}$ morn.	,, ,, 2^{h} aft.
1924	May 7		,, ,, $5\frac{1}{2}^{\mathrm{h}}$ morn.
1927	Nov. 8		,, ,, $8\frac{1}{4}^{\mathrm{h}}$ morn.
1937	May 10	,, ,, 8^{h} morn.	,, ,, $9\frac{1}{4}^{\mathrm{h}}$ morn.
1940	Nov. 10	Below the horizon.	
1953	Nov. 13	Ingress about $3\frac{1}{4}^{\mathrm{h}}$ aft.	
1960	Nov. 6	,, ,, $2\frac{1}{4}^{\mathrm{h}}$ aft.	
1970	May 9		,, ,, noon.
1973	Nov. 9	,, ,, $7\frac{3}{4}^{\mathrm{h}}$ morn.	,, ,, 1^{h} aft.
1986	Nov. 12	Below horizon.	
1999	Nov. 14	Below horizon.	

Upton Helions Rectory,
Crediton.

Extract from a Letter received by Mr. Ranyard from Prof. Meucci of the Museo Reale, Florence.

I have recently found, in the collection of instruments under my care, an Arabian Celestial Globe, which I believe is certainly the oldest of the few in existence; its date is 1081 A.D. It is made of metal, and its diameter is 209 millimeters. It represents the celestial sphere as given by Ptolemy, except that the longitudes of all the stars are augmented by 14° 10′, so that we find *Regulus* at 16° 40′ ♌ &c. The names of the constellations are all in cufic characters. There is also an inscription in the same character to the effect that the globe was made by Ibrâhîm Ibn Saîd al Sahlî al Wazzon (the Weigher), with his son Muhammed. The work, it appears, was finished in Valencia, in the beginning of the month Safar, in the year of the Hegira 474 (this month began July 11, A.D. 1081), and it was made for Abu Isa Ibn Labbun (or Lebûn).

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